Remarks

Claims 1-33 are pending in the application.

Claims 1-33 are rejected.

Independent claims 1, 19, 23, and 32 are amended. No new matter is added. Applicant amended these claims to incorporate the structures in the preambles into the bodies of the respective claims as a result of the telephone interview conducted between the Examiner and Vincent E. McGeary on February 19, 2002. The Examiner indicated that, by incorporating the structure in the preamble of each claim into the body, the claim would be allowable and no new search is required.

In the following discussion, please refer to claims at the beginning of this document for references to claim line numbers.

I. Claim Rejections – 35 U.S.C. §103

(a) Claims 1-18 and 23-31

Claims 1-18 and 23-31 are rejected under 35 U.S.C §103 as being unpatentable over Applicant's Prior Art FIG. 1 (hereinafter "APAF1") in view of U.S. Patent No. 5,394,343 issued February 28, 1995 to Tsao (hereinafter "Tsao"). Applicant has amended claims 1 and 19 to incorporate the structures in the preamble into the bodies of the respective claims. Applicant respectfully submits that the rejection has been overcome.

With respect to claim 1, the Examiner asserted that the limitation of the preamble is not given patentable weight because the claim following the preamble is a self-contained description of the structure not depending for the completeness upon the introductory clause. Applicant has incorporated the structure in the preamble into the body of the claim. For example, claim 1 recites that the ROM uses the plurality of data resistors to interconnect a plurality of input word lines with a plurality of output bit lines. See claim 1, lines 10-12.

The Examiner further asserted that APAF1 discloses on page 2, line 22-page 4, line 6, a ROM device having a temperature compensation circuit comprising a reference resistor in which the conductivity is responsive to changes in temperature and a switch (22) to couple to the voltage to input word lines (28).

The Examiner also asserted that Tsao discloses a sensor device having a temperature compensation circuit comprising a constant current source coupled to a reference resistor (52) and inherently develops a voltage across the resistor. Thus, the Examiner asserted that it would be obvious to modify the temperature compensation circuit in APAF1 by coupling the circuit to a reference resistor using a constant current source as taught by Tsao.

Contrary to the Examiner's assertion, Applicant respectfully submits that there is no reference resistor shown in APAF1 or described on page 2, line 22-page 4, line 6. The Examiner seems to label the feedback resistor of sense amplifier 42 as the reference resistor. As shown in FIG. 3, reference resistor 29 and sense amplifier 42 with its feedback resistor 41 are two different components. Reference resistor 29 is added in the invention to perform a different function than sense amplifier 42 and its feedback resistor 41. Thus, APAF1 does not disclose the reference resistor recited in claim 1 and, therefore, the combination of APAF1 and Tsao does not disclose the reference resistor featured by claim 1.

Furthermore, even assuming that the feedback resistor of sense amplifier 42 is the reference resistor, the combination of APAF1 and Tsao still does not yield claim 1. Claim 1 further recites that there is "a constant current source coupled to said at least one reference resistor." Even assuming that the feedback resistor of the sense amplifier is the reference resistor, there is no motivation to apply a constant current source across the feedback resistor, because that would completely destroy the function of the sense amplifier. As stated on page 4, lines 4-5, the output voltage from sense amplifier 52 should be substantially constant. The modification would destroy this property because

with a constant current, the voltage across the feedback resistor would vary with the temperature. Furthermore, it may falsely indicate that the state of the data bit associated with the sense amplifier when the bit is not selected by the switch.

Furthermore, claim 1 recites that the constant current source develops a voltage across the at least one reference resistor. Since APAF1 does not disclose a reference resistor, APAF1 and Tsao considered singly or in combination do not disclose or suggest this feature.

Furthermore, claim 1 recites that at least one switch is connected to said at least one reference resistor to selectively couple the voltage to the input word lines. Since there is no reference resistor, the voltage featured by claim 1 does not exist. Even if the voltage across the feedback resistor of sense amplifier 42 is assumed to be the reference resistor featured by claim 1, the voltage is coupled to bit lines 40 and not word lines 28 featured by claim 1.

Furthermore, APAF1 and Tsao are directed to different subject matters. APAF1 is directly to temperature compensation of read-only memory. Tsao, however, is directed to electronic tire gauges. Thus, a person skilled in the art reading APAF1 would have no motivation to read Tsao for a modification.

Finally, the constant current source 54 disclosed in Tsao is used to control the power applied to a full Wheatstone bridge used as a pressure transducer. See Tsao, FIG. 2 and col. 5, lines 22-29. The constant current source 54 connects to both sides of the Wheatstone bridge, in which one side is connected through resistor 52. Thus, even assuming resistor 52 is the reference resistor as featured by claim 1, the Examiner did not show how the voltage across resistor 52 can be selectively coupled the word lines by the switch as featured by claim 1. Unless the Examiner shows otherwise, Applicant respectfully submits that the modification of APAF1 with the temperature compensation circuit disclosed in Tsao would be inoperative.

From all of the arguments above, Applicant respectfully submits that the rejection of claim 1 under 35 U.S.C. §103 has been overcome.

With respect to claims 2-18, Applicant respectfully submits that the rejection under 35 U.S.C. §103 has been overcome for the reasons discussed above with respect to claim 1 from which these claims directly or indirectly depend.

Furthermore, with respect to claim 2, the Examiner asserted that APAF1 discloses that the electrical conductive properties of the reference resistor are the same as the electrical conductive properties of data resistors (30). Although APAF1 discloses that the feedback resistor of the sense amplifier 42 has similar electrical and thermal characteristics similar to those of data resistors 30, as pointed out above, the feedback resistor is not the reference resistor featured in claim 1. Thus, claim 2 is distinctly patentable.

With respect to claim 23, Applicant has amended the claim to incorporate the structure in the preamble into the body. For example, claim 23 recites that the ROM uses the plurality of data resistors to interconnect a plurality of input word lines with a plurality of output bit lines. See claim 23, lines 7-9. Applicant repeats the remarks with respect to claim 1 and respectfully submits that the rejection has been overcome.

With respect to claims 24-31, Applicant respectfully submits that the rejection under 35 U.S.C. §103 has been overcome for the reasons discussed above with respect to claim 23 from which these claims directly or indirectly depend.

(b) Claims 19-22, 32, and 33

Claims 19-22, 32, and 33 are rejected under 35 U.S.C §103 as being unpatentable over APAF1 in view of U.S. Patent No. 5,544,000 issued August 6, 1996 to Suzuki et al. (hereinafter "Suzuki"). Applicant has amended independent claims 19 and 32 and respectfully submits that the rejection has been overcome.

With respect to 19, the Examiner asserted that the limitation of the preamble is not given patentable weight because the claim following the preamble is a self-contained description of the structure not depending for the completeness upon the introductory clause. Furthermore, the Examiner

asserted, citing Ex parte Pfeiffer, 1962 C.D. 408 (1961), that to be entitled to weight in a method claim, the recited structure limitations must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of a particular structure.

Applicant has amended claim 19 to incorporate the structure in the preamble into the body of the claim. For example, the claim recites, at lines 3-5, that the ROM employs a plurality of data resistors to provide electrical interconnections between a plurality of input lines and output lines.

The Examiner further asserted that APAF1 discloses a method of a temperature compensation for ROM device having a temperature compensation circuit comprising a reference resistor in which the conductivity is responsive to changes in temperature and a switch (22) to couple the voltage to input word lines (28).

The Examiner also asserted that Suzuki discloses a sensor comprising a method of maintaining a constant current in a temperature compensation circuit by supplying a reference voltage to input lines and the reference voltage is responsive to a change in temperature. Thus, the Examiner asserted that it would be obvious to modify the method of maintaining the temperature compensation circuit of APAF1 by supplying a reference voltage that is responsive to a change in temperature as taught by Suzuki to supply a constant current.

With respect to the "reference resistor" labeled by the Examiner, Applicant repeats the remarks with respect to claim 1. Applicant respectfully submits that the rejection of claim 19 has been overcome.

Furthermore, claim 19 recites the step of supplying a reference voltage to the input line, the "reference voltage developed by supplying a *constant current* to said reference resistor." In contrast, the reference voltage V11 disclosed in Suzuki is generated by a voltage source supplied to the resistor network of the temperature compensation circuit 51. See Suzuki, FIG. 11, and col. 6, lines 23-30. Thus, APAF1 and Suzuki, considered singly or in combination, does not

disclose this step. For the same reason, a skilled person would have no motivation to modify APAF1 with the temperature compensation circuit disclosed in Suzuki.

Furthermore, APAF1 and Suzuki are directed to two different subject matters. APAF1 is directed to a ROM circuit; whereas, Suzuki is directed to a sensor. A person skilled in the art, reading APAF1 would not be motivated to read Suzuki.

With respect to claims 20-22, Applicant respectfully submits that the rejection under 35 U.S.C. §103 has been overcome for the reasons discussed above with respect to claim 19 from which these claims depend.

With respect to claim 32, Applicant has amended the claim to incorporate the structure recited in the preamble into the body of the claim. For example, claim 32 recites, at lines 4-6, that the ROM employs a plurality of data resistors to provide electrical interconnections between a plurality of input lines and a plurality of output lines.

Furthermore, as discussed above with respect to claim 19, there is no motivation to combine the two teachings because they are not analogous art.

From the arguments above, Applicant respectfully submits that the rejection of claim 32 under 35 U.S.C. §103 has been overcome.

With respect to claim 33, Applicant respectfully submits that the rejection under 35 U.S.C. §103 has been overcome for the reasons discussed above with respect to claim 32 from which this claim depends,

II. Summary

Having fully addressed the Examiner's rejections, it is believed that in view of the preceding remarks, this entire application stands in a condition for allowance. If, however, the Examiner is of the opinion that such action cannot be taken, he is invited to contact the Applicant's attorney at the number and address below in order

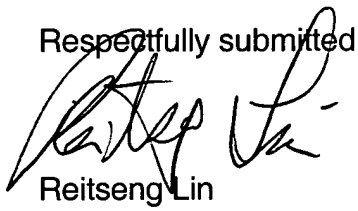
that any outstanding issues may be resolved without the necessity of issuing a further Action. An early and favorable response is earnestly solicited.

III. CORRESPONDENCE AND FEES

Please address all correspondence to Customer No.: 26345. All telephone calls should be made directly to Reitseng Lin at 973-596-4717.

If any fees are due in respect to this amendment, please also charge them to Gibbons, Del Deo, Dolan, Griffinger & Vecchione Deposit Account No. 03-3839.

Respectfully submitted,



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Version With Marking to Show Changes Made

IN THE CLAIMS

1. (Amended) In a ROM device [using a plurality of data resistors to interconnect a plurality of input word lines with a plurality of output bit lines], a temperature compensation circuit to maintain a current through a selected one of [said] a plurality of data resistors substantially constant comprising:

at least one reference resistor, wherein the conductivity of said reference resistors is responsive to changes in temperature;

a constant current source coupled to said at least one reference resistor, said constant current source developing a voltage across said at least one reference resistor; and

at least one switch connected to said at least one reference resistor to selectively couple said voltage to [said] a plurality of input word lines wherein the ROM device uses said plurality of data resistors to interconnect said plurality of input word lines with a plurality of output bit lines.

19. (Twice Amended) A method to maintain a current through Read-Only Memory (ROM) substantially constant as temperature changes [wherein said ROM employs a plurality of data resistors to provide electrical interconnections between a plurality of input lines and output lines], comprising the steps of:

selecting a reference resistor wherein said ROM employs a plurality of data resistors to provide electrical interconnections between a plurality of input lines and output lines and a change in electrical conductive

properties of said reference resistor matches a change in electrical conductive properties of said data resistors;

supplying a reference voltage to said input lines, said reference voltage developed by supplying a constant current to said reference resistor, wherein said reference voltage is responsive to a change in temperature.

23. (Amended) In a ROM device [using a plurality of data resistors to interconnect a plurality of input word lines with a plurality of output bit lines], a temperature compensation circuit to maintain a current through a selected one of [said] a plurality of data resistors substantially constant comprising:

at least one voltage source producing a voltage that is responsive to changes in temperature; and

at least one switch connected to said at least one voltage source to selectively couple said voltage to [said] a plurality of input word lines wherein the ROM device uses said plurality of data resistors to interconnect said plurality of input word lines with a plurality of output bit lines.

32. (Amended) A method to maintain a current through Read-Only Memory (ROM) substantially constant as temperature changes [wherein said ROM employs a plurality of data resistors to provide electrical interconnections between a plurality of input lines and output lines], comprising the steps of:

supplying a reference voltage that is responsive to changes in temperature to [said] a plurality of input lines, wherein said ROM employs a plurality of data resistors to provide electrical interconnections between

said plurality of input lines and a plurality of output lines and said reference voltage changes to maintain said current through said data resistors substantially constant.